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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/613,498	07/03/2003	Mark H. Germagian	18133-178	4416

30623 7590 09/06/2006

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EXAMINER	
AMRANY, ADI	
ART UNIT	**PAPER NUMBER**
2836	

DATE MAILED: 09/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/613,498	GERMAGIAN ET AL.	
	Examiner	Art Unit	
	Adi Amrany	2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 July 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5,7-14 and 16-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,7-14 and 16-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicants' arguments filed July 28, 2006, have been fully considered but they are not persuasive. Independent claims 1, 7, 14 and 20 were amended to include the limitation of "a low-voltage cutout circuit configured to inhibit" power or current from flowing from the input to the electrical device at the output if the input power is below a low-voltage cutout threshold.

The limitation of a low voltage cutout is anticipated by Smith, which discloses a configuration of diodes at the AC and DC inputs (figure 3, item 44; figure 4, item D7; column 3, lines 40-44 and 52-56). The diodes will not conduct until the voltage across them exceeds a predetermined biasing value. For voltages below the bias voltage level, the diodes act as a *low-voltage cutout circuit* to inhibit power flow to the electrical device.

Applicants' do not challenge the references used in the non-final rejection (February 28, 2006). Applicants' contend that the amended limitations of the independent claims place the claims in condition for allowance. The limitation of a low-voltage cutout circuit is disclosed in Smith (US 5,499,187), as will be discussed below.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 7-8, 10-14, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Smith (US 5,499,187).

With respect to claim 7, Smith discloses a power supply system (figure 1) for receiving and processing power of different voltages, the system comprising:

an input apparatus (figure 1, items 12A and 12B, and column 2, lines 47-48) configured to be coupled to a plurality of different socket configurations (figure 1, item 6, and column 6, lines 54-58) each associated with one of relative-high AC voltage (column 2, lines 58-61) and relatively-low DC voltage (column 3, lines 2-5);

an output device (figure 5, items 16 and 17, and column 4, lines 9-20) configured to couple to at least one electronic device to provide output power to the electronic device, the output power having an associated voltage appropriate for the electronic device;

a power adapter (figure 1, item 10, and column 3, lines 10-25) coupled to the input apparatus and the output device and configured to automatically provide input power received through the input apparatus having the relative-low DC voltage to low-DC-voltage converter circuitry (figure 2, items 15 and 15T, and column 3, lines 18-20 and 21-22) and having the relatively-high AC voltage to high-AC-voltage converter circuitry (figure 2, items 14 and 14T, and column 3, lines 16-18 and 20-21) to produce the output power for the electronic device; and

a low-voltage cutout circuit (figure 3, item 44; figure 4, item D7; column 3, lines 40-44 and 52-56) configured to inhibit electrical current from flowing to the at least one electrical device if voltage at the input apparatus is below a low-voltage cutout threshold.

Smith discloses a set of diodes disposed at both the AC (figure 3) and DC (figure 4) input nodes. The diodes will not conduct until the voltage across them exceeds a predetermined biasing value. For low voltages below the bias voltage level, the diodes act as a low-voltage cutout circuit to inhibit power flow to the electrical device.

With respect to claim 8, Smith discloses the system of claim 7, and further discloses the power adapted is configured to provide the input power to one of the low-DC-voltage circuitry and the high-AC-voltage circuitry based only upon at least one electrical characteristic of the input power (figure 2, items 14 and 15, and column 3, lines 16-22). Smith discloses that the voltage sensors (14, 15) can detect the presence of either AC or DC voltage.

With respect to claim 10, Smith discloses the system of claim 7, and further discloses the input apparatus is configured to provide the input power to one of the low-DC-voltage circuitry and the high-AC-voltage circuitry independent of user input to the system. Smith discloses an "autoselecting interface 10," that creates control signals to activate the respective switches. It is inherent that an autoselecting interface would function without user input.

With respect to claim 11, Smith discloses the system of claim 7, and further discloses the input apparatus includes a plurality of connectors (column 2, lines 54-58)

configured to fit into at least two of a United States wall socket, a wall socket of a country other than the United States, an automobile cigarette lighter socket, and an airline power socket. Smith discloses a power supply for connection to aircraft power sources in the range of 115-230 VAC and 18-40 VDC. The Smith power supply can be connected to at least an airline power socket (as disclosed) and a foreign wall socket with an output voltage of 220 VAC.

With respect to claim 12, Smith discloses the system of claim 11, and further discloses the plurality of connectors are configured to be removably coupled to the power adapter (column 4, lines 58-59). Smith discloses at least one adaptor 6 to connect different plugs to the input terminals (figure 3, items 12A and 12B).

With respect to claim 13, Smith discloses the system of claim 12, and further discloses the input apparatus includes a power cord fixedly coupled to the power adapter and the plurality of connectors are configured to be removably coupled to the power cord. It is inherent that the Smith apparatus comprises a power cord. Otherwise, the apparatus would have to be placed directly onto a power outlet in order to operate. This configuration is not possible; especially since the Smith apparatus is designed for use on airplanes. Further, it is inherent in Smith that the connectors (adaptor 6) would be coupled to one end of the power cord, with the other end fixed to the terminals.

With respect to claim 14, Smith discloses a portable power supply system (figure 1) for providing power from different sources having different voltages to portable electronic devices, the system comprising:

a plurality of input connectors (column 2, lines 54-58) configured to fit into receptacles associated with respective AC and DC voltages;

a single input cord (figure 1, items 12A and 12B), wherein the input cord and the input connectors are configured to be removably coupled together (column 2, lines 56-58 disclose at least 1 adapter coupled to different plugs);

a plurality of output connectors (figure 1, item 34, column 2 lines 52-54) configured to fit into power receptacles of portable electronic devices;

a power adapter (figure 1, item 10, and column 3, lines 10-25) coupled to the single input cord and configured to be coupled to the output connectors and including coupling means (column 2, lines 48-52) for automatically coupling high-voltage AC signals received by the single input cord to high-voltage AC-to-DC converter circuitry (figure 1, items 14 and 14T, and column 3, lines 16-18 and 20-21) and automatically coupling low-voltage DC signals received by the single input cord to low-voltage DC-to-DC converter circuitry (figure 1, items 15 and 15T, and column 3, lines 18-20 and 21-22); and

a low-voltage cutout circuit (figure 3, item 44; figure 4, item D7; column 3, lines 40-44 and 52-56) configured to inhibit power to the plurality of output connectors if the voltage at the input cord is below a low-voltage cutoff threshold.

With respect to claim 17, Smith discloses the system of claim 14, and further discloses the input connectors are configured to fit into at least two of a United States wall socket, a wall socket of a country other than the United States, an automobile cigarette lighter socket, and an airline power socket. The power supply disclosed by

Smith can connect to at least an airline power socket and a foreign wall socket as discussed above.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-5, 9, and 20-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith in view of Worley (US 6,885,016).

With respect to claim 1, Smith discloses a power adapter (figure 1) comprising:

an input (figure 1, items 12A and 12B, and column 2, lines 47-48) configured to receive input power;

a switch (figure 5, items 16 and 17, and column 4, lines 9-20) coupled to the input and configured to selectively couple the input to one of a low-voltage output and a high-voltage output, the switch being in one of a low-voltage position and a high-voltage position, respectively;

a selector circuit (figure 1, item 10, and column 3, lines 10-25) coupled to the input and to the switch and configured to provide a control signal (figure 2, items 14T and 15T, and column 3, lines 16-25); and

a low-voltage cutout circuit (figure 3, item 44; figure 4, item D7; column 3, lines 40-44 and 52-56) configured to inhibit electrical current from flowing through the switch if the voltage input power is below a low-voltage cutout threshold.

Smith does not expressly disclose the selector circuit is configured to provide a control signal to the switch such that the switch will be in the low-voltage position if the input receives input power having a DC voltage lower than a threshold voltage and will be in the high-voltage position if the input power has an AC voltage higher than the threshold voltage.

Worley discloses a selector circuit (figure 1, namely item 101, column 1, lines 59-64, and column 2, lines 9-12) configured to provide a control signal to the switch (figure 1, item 105) such that the switch will be in the low-voltage position if the input receives input power having a DC voltage lower than a threshold and will be in the high-voltage position if the input power has an AC voltage higher than the threshold voltage (column 2, lines 17-20, and column 2, line 56 to column 3, line 27).

Worley discloses a switch control circuit that controls the biasing of a MOS power transistor based signals received from a threshold detector.

Smith and Worley are analogous because they are from the same field of endeavor, namely circuitry for selecting a variable input power level and passing the correct voltage to a load.

At the time of the invention by applicants, it would have been obvious to a person of ordinary skill in the art to combine the AC voltage vs. DC voltage detection circuit in Smith with the high voltage vs. low voltage detection circuit disclosed in Worley.

The motivation for doing so would have been to create a selector circuit capable of connecting a load to its designed input power level and protecting the load from improper input voltage levels.

With respect to claim 2, Smith and Worley disclose the power adapter of claim 1, and Smith further discloses the threshold above 17 volts (column 3, lines 2-5; "18-40v").

With respect to claim 3, Smith and Worley disclose the power adapter of claim 1, and Smith further discloses the selector circuit is configured to cause the switch to be in the low-voltage position if the input power has a voltage of between 11 VDC and 16 VDC. Persons of ordinary skill in the art would extend or expand the operating range to accommodate lower voltages occurring in systems having different design requirements, since where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

With respect to claim 4, Smith and Worley disclose the power adapter of claim 1, and Smith further discloses the selector circuit is configured to cause the switch to be in the high-voltage position if the input power has a voltage of at least 90 VAC rms (column 2, lines 58-62; "115-230 VAC"). Further, Worley discloses that the accepted input AC voltage range is designed for use with an aircraft power system (column 1, lines 53-56).

With respect to claim 5, Smith and Worley disclose the power adapter of claim 1, and Smith further discloses the switch is configured to be in the high-voltage position as a default, and the selector circuit is configured to cause the switch to change from the

high-voltage position to the low-voltage position if the voltage of the input power is lower than the threshold. Smith discloses open-close switches (figure 5, items 16 and 17). In Smith, both sets of open-close switches are in an open default position. At the time of the invention by applicant, it would have been obvious to a person of ordinary skill in the art to replace the two pairs of open-close switches in Smith with the relay of the present application. Applicants' use of a relay creates the need for the switch to be at a default input power selection state.

With respect to claim 9, Smith discloses the system of claim 8, but does not expressly disclose one of the electrical characteristics is the voltage of the input power. Worley discloses a power supply system that detects the input voltage level (figure 1, and column 2, lines 17-20 and 57-61). Smith and Worley are analogous as discussed above.

With respect to claim 20, Smith and Worley disclose the apparatus necessary to complete the recited method of providing an appropriate level of DC power. These elements are discussed in the §103(a) rejection to claim 1, above.

With respect to claim 21, Smith and Worley disclose the method of claim 20, and further disclose actuating a switch (column 4, lines 9-20), coupled to receive the input power, to a low-voltage position, as discussed in the claim 1 rejection, above.

With respect to claim 22, Smith and Worley disclose the method of claim 21, and Smith further discloses where automatically coupling the received input power to the low-voltage apparatus comprises actuating the switch from a default, high-voltage position to the low-voltage position (column 4, lines 9-12), wherein the switch couples

the input power to a high-voltage conversion circuit in the high-voltage position and couples the input power to a low-voltage conversion circuit in the low-voltage position. As discussed in the rejection of claim 5, it would have been obvious to a person of ordinary skill in the art to replace the two pairs of open-close switches in Smith with the relay of the present application.

With respect to claim 23, Smith and Worley disclose the method of claim 22. Smith does not expressly disclose automatically coupling the received input power to the high-voltage apparatus comprising inhibiting switching from the default, high-voltage position. Smith discloses two pair of normally open switches (figure 5, items 16-17; column 4, lines 9-12) where switching is inhibited until predetermined voltage parameters are sensed. It would have been obvious to a person of ordinary skill in the art to replace the open-close switches disclosed in Smith with the relays of the present application, as discussed above in the rejection of claim 5.

With respect to claim 24, Smith and Worley disclose the method of claim 20, and Smith further discloses the threshold is 18 volts (column 3, lines 2-5).

With respect to claim 25, Smith and Worley disclose the method of claim 20, and Smith further discloses that automatically coupling the received input power to the high-voltage apparatus and the automatically coupling the received input power to the low-voltage apparatus occurs independently of user input (column 2, lines 44-48). Smith discloses an "autoselecting power supply" and an "autoselecting interface." It is inherent that an autoselecting device would perform independently of user input.

6. Claims 16 and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith.

With respect to claim 16, Smith discloses the system of claim 14, and further discloses that the system is portable (column 1, lines 8-13). Smith does not expressly disclose that the system comprises a backpack housing configured to hold the input connectors, input cord, output connectors, and power adapter.

At the time of the invention by applicant, it would have been obvious to a person of ordinary skill in the art to place the portable system in a backpack housing that is configured to hold the input connectors, input cord, output connectors, and power adapter.

With respect to claim 18, Smith discloses the system of claim 17, and further discloses the coupling means is configured to couple 110 VAC and 220 VAC signals (column 2, lines 58-61) to the high-voltage AC-to-DC converter circuitry. Smith does not expressly disclose the coupling means is figured to couple signals with DC voltages between 11 VDC and 16 VDC to the low voltage DC-to-DC converter circuitry.

Smith discloses a VDC range of 18-40v (column 3, lines 2-5). It would have been obvious to one of ordinary skill to configure the Smith apparatus to couple voltages of 11-16 VDC, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105, USPQ 223 (CCPA 1955).

With respect to claim 19, Smith discloses the system of claim 18, and further discloses the coupling means configured to couple signals received by the single input

cord to one of the low-voltage DC-to-DC converter circuitry and the high-voltage AC-to-DC converter circuitry independent of user input to the system (column 2, lines 44-48).

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adi Amrany whose telephone number is (571) 272-0415. The examiner can normally be reached on weekdays, from 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (571) 272-2800 x36. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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